

WHAT IS CLAIMED IS:

1. A disc drive comprising:
a top cover;
5 a base plate attached to the top cover;
a printed circuit board assembly ("PCBA") attached to the bottom surface of
the base plate;
an electrical connector secured to an edge of the PCBA;
a guide pin protruding from one of the base plate and the electrical connector;
10 and
an opening defined in the other of the base plate and the electrical connector,
wherein the guide pin is received within the opening to position the electrical connector
relative to the base plate.
2. The disc drive of claim 1 wherein:
15 the opening is defined in a bottom surface of the base plate and extends
vertically upward toward the top cover; and
the guide pin protrudes from the electrical connector and extends vertically
upward to fit within the opening defined in the base plate.
3. The disc drive of claim 2 wherein:
the bottom surface of the base plate includes a plurality of threaded openings;
the PCBA includes a plurality of oversized mounting holes corresponding to
the threaded openings in the base plate; and
the PCBA is attached to the bottom surface of the base plate by a plurality of
25 threaded fasteners that extend through the oversized mounting holes while the guide pin is
received within the opening.
4. The disc drive of claim 2 wherein:
the base plate is formed from cast aluminum; and
the opening is formed as a cast feature of the base plate.
5. The disc drive of claim 2 wherein:
30 the base plate is formed from cast aluminum; and
the opening is machined into the base plate.

6. The disc drive of claim 2 wherein the electrical connector is formed from a molded plastic material and the guide pin is formed as an integral molded feature of the electrical connector.

7. The disc drive of claim 6 wherein:

5 the opening in the base plate comprises an elongated slot; and
the guide pin includes a chamfered tip.

8. The disc drive of claim 7 wherein:

the guide pin has a predetermined length; and
the elongated slot has a predetermined depth that is greater than the
10 predetermined length of the guide pin to prevent the tip of the guide pin from contacting a
bottom surface of the slot.

9. The disc drive of claim 8 wherein:

the bottom surface of the base plate includes a spindle motor electrical
connector;

15 a top surface of the PCBA includes contact pads for engaging the spindle
motor electrical connector; and

the predetermined length of the guide pin is sufficient to allow the tip of the
guide pin to be received within the slot while the PCBA is suspended above the bottom
surface of the base plate by contact between the PCBA contact pads and the spindle motor
20 electrical connector.

10. The disc drive of claim 2 wherein:

the electrical connector includes a plurality of data pins extending laterally
from a front surface of the connector; and

the guide pin is positioned adjacent a predetermined one of the data pins.

25 11. The disc drive of claim 2 wherein:

the base plate defines a plurality of openings extending vertically upward
toward the top cover; and

the electrical connector includes a plurality guide pins extending vertically
upward from the electrical connector, wherein each guide pin is received within a
30 corresponding opening defined in the base plate to position the electrical connector relative to
the base plate.

12. A method of positioning an electrical connector of a printed circuit board assembly ("PCBA") relative to a base plate of a disc drive, the method comprising steps of:

(a) inserting a guide pin formed on one of the electrical connector and the base plate into an opening formed in the other of the electrical connector and the base plate to align
5 the electrical connector with the base plate; and

(b) fastening the PCBA to the base plate of the disc drive while the guide pin remains within the opening.

13. The method of claim 12 wherein the guide pin is formed on the electrical connector and the opening is formed in the base plate of the disc drive.

14. The method of claim 13 further comprising a step (c) of aligning the PCBA with the base plate of the disc drive so that mounting holes formed within the PCBA are aligned with threaded openings formed in the base plate, prior to the fastening step (b).

15. The method of claim 14 wherein:
fastening step (b) further comprises inserting a threaded fastener through each
15 of the mounting holes in the PCBA and into the corresponding threaded opening in the base plate; and

the mounting holes in the PCBA are oversized relative to a shaft of the threaded fastener to prevent the threaded fastener from binding against the PCBA.

16. The method of claim 14 wherein the base plate includes a spindle motor electrical connector and the PCBA includes contact pads for engaging the spindle motor electrical connector, and wherein:

aligning step (c) further includes aligning the PCBA contact pads with the spindle motor electrical connector, prior to the fastening step (b); and

the guide pin has a predetermined length sufficient to allow a tip of the guide
25 pin to be received within the opening following the aligning step (c) and prior to the fastening step (b).

17. The method of claim 14 wherein the electrical connector is formed from a molded plastic material and the guide pin is formed as an integral molded feature of the electrical connector.

18. The method of claim 17 wherein:

the electrical connector includes a plurality of data pins extending laterally from a front surface of the connector; and

the guide pin is positioned adjacent a predetermined one of the data pins.

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19. A disc drive including a base plate and a printed circuit board assembly ("PCBA") attached to the base plate, the disc drive comprising:

an electrical connector attached to one end of the PCBA, the electrical connector having a plurality of data pins adapted to mate with a female connector in a computer system; and

means for aligning the electrical connector relative to the base plate so that the data pins will be received within corresponding sockets of the female connector when the disc drive is installed within the computer system.

20. The disc drive of claim 19 further comprising means for securing the PCBA to the base plate, and wherein:

the means for securing the PCBA to the base plate are separate from the means for aligning the electrical connector relative to the base plate.

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